

SUBMERGED SAMPLE OBSERVATION APPARATUS AND METHOD

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ABSTRACT OF THE DISCLOSURE

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10 An apparatus and a method for observing a submerged sample are disclosed, in which a scanning probe microscope comprises a cantilever with a probe arranged at the forward end thereof, a light source for applying light to the cantilever and a detector for detecting the light reflected from the cantilever, the apparatus further comprising a sample container having a side wall for holding a liquid therein. The probe is placed in closely opposed relation to the sample in the liquid in the sample container, and the relative positions of the probe and the sample are changed, so that based on the interaction between the probe and the sample, a surface image of the sample is produced to observe the sample. A device for preventing volatilization of the liquid having the sample submerged therein is formed on the surface of the liquid. An insulative liquid layer not mixed with the surface of the liquid having the sample submerged therein is formed on the surface of the liquid. Only the forward end of the probe is introduced into the liquid having the sample submerged therein, while the other portion of the probe is covered with the insulative liquid. The light from the light source is applied to the cantilever in the liquid without passing through the interface between the liquid and the atmosphere, and the reflected light is picked up in the liquid.

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